

Claims

[c1]

What is claimed is:

1. An optical disk drive module installed in a flat panel display personal computer for lifting up and lowering a disk drive, the flat panel display personal computer comprising a computing module and a flat panel display coupled to the computing module and installed on a rear side of the flat panel display, the optical disk drive module comprising:

a chassis module moveably disposed at the rear side of the flat panel display;

a drive carrier rotatably disposed in the chassis module for positioning the disk drive;

a cover fixed outside the disk drive and slidably fastened within the drive carrier so as to dispose the disk drive in the drive carrier;

a button positioned at a front cover of the flat panel display;

an engaging switch disposed on the chassis module, the engaging switch fastened to the cover so as to enclose the drive carrier in the chassis module; wherein when depressing the button, the button will push the engaging switch to separate the engaging switch from the cover, and the drive carrier will swing away from the chassis module to expose the disk drive below the flat panel display.

[c2]

2. The optical disk drive module of claim 1 wherein:

the chassis module comprises:

a chassis body;

a first side plate and a second side plate formed at two sides of the chassis body and moveably fastened to the rear side of the flat panel display, the first side plate having a first aperture, the second side plate having a second aperture facing the first aperture;

the drive carrier comprises:

a carrier body;

a first side plate and a second side plate formed at two sides of the carrier body, the first side plate having a first protruded portion inserted into the first aperture of the first side plate of the chassis module, the second side plate having a second protruded portion inserted into the second aperture of the

10063947-052802

second side plate of the chassis module;

a first positioning hook positioned at an upper end of the first side plate, and a second positioning hook positioned at an upper end of the second side plate; and

the cover comprises:

a cover body having a first positioning slot for receiving the first positioning hook, and a second positioning slot for receiving the second positioning hook so as to fasten the cover within the drive carrier;

a first side plate and a second side plate formed at two sides of the cover body and outside of the disk drive so as to fix the cover outside of the disk drive, the first side plate and the second side plate being slidably disposed within the drive carrier so as to dispose the disk drive within the drive carrier; and

a switch hook positioned on the cover body for engaging with the engaging switch;

wherein when the drive carrier rotates with respect to the first protruded and the second protruded portion to swing away from the chassis module, the optical disk drive module will lower the disk drive to expose the disk drive below the flat panel display; and when the drive carrier rotates with respect to the first protruded portion and the second protruded portion to swing toward the chassis module, the optical disk drive module will raise up the disk drive to position the disk drive at the rear side of the flat panel display.

[c3]

3.The optical disk drive module of claim 2 wherein the button comprises a rod to be pushed by a user.

[c4]

4.The optical disk drive module of claim 3 wherein the engaging switch comprises:

an engaging unit disposed on the first side plate of the chassis module, a plurality of elastic elements separating the engaging unit and the first side plate of the chassis module by a predetermined distance, a protruded portion formed on one side of the engaging unit to be pushed by the rod;

a fastening unit moveably disposed on the chassis body having an end fastened to the switch hook so as to enclose the drive carrier within the chassis module; and

a connecting unit connected between the engaging unit and the fastening unit; wherein when depressing the button, the rod will push the protruded portion to cause the engaging unit moving toward the first side plate of the chassis module and the fastening unit will move with the connecting unit to separate from the switch hook.

[c5]

5. An optical disk drive module installed in a flat panel display personal computer for lifting up and lowering a disk drive, the flat panel display personal computer comprising a computing module and a flat panel display coupled to the computing module and installed on a rear side of the flat panel display, the optical disk drive module comprising:

a chassis module moveably disposed at the rear side of the flat panel display having a chassis body, and a first side plate disposed at one side of the chassis body;

a drive carrier rotatably disposed in the chassis module;

a cover fixed outside the disk drive and slidably fastened within the drive carrier so as to dispose the disk drive in the drive carrier, the cover having a switch hook;

a button positioned at a front cover of the flat panel display and having a rod to be pushed by a user; and

an engaging switch disposed on the chassis module comprising:

an engaging unit disposed on the first side plate of the chassis module, a plurality of elastic elements separating the engaging unit and the first side plate of the chassis module by a predetermined distance, a protruded portion formed on one side of the engaging unit to be pushed by the rod;

a fastening unit moveably disposed on the chassis body having an end fastened to the switch hook so as to enclose the drive carrier within the chassis module; and

a connecting unit connected between the engaging unit and the fastening unit; wherein when depressing the button, the rod will push the protruded portion to cause the engaging unit moving toward the first side plate of the chassis module, the fastening unit will move with the connecting unit to separate from the switch hook, and the drive module will lower the disk drive to expose the

10063947 052802

disk drive below the flat panel display.

[c6]

6.The optical disk drive module of claim 5 wherein:

the chassis module further comprises:

a second side plate disposed at another side of the chassis body, the first and second side plates moveably fastened to the rear side of the flat panel display, the first side plate having a first aperture, the second side plate having a second aperture facing the first aperture;

the drive carrier comprises:

a carrier body;

a first side plate and a second side plate formed at two sides of the carrier body, the first side plate having a first protruded portion inserted into the first aperture of the first side plate of the chassis module, the second side plate having a second protruded portion inserted into the second aperture of the second side plate of the chassis module; and

a first positioning hook positioned at an upper end of the first side plate, and a second positioning hook positioned at an upper end of the second side plate; and

the cover further comprises:

a cover body having a first positioning slot for receiving the first positioning hook, and a second positioning slot for receiving the second positioning hook so as to fasten the cover within the drive carrier;

a first side plate and a second side plate formed at two sides of the cover body and outside of the disk drive so as to fix the cover outside of the disk drive, the first side plate and the second side plate being slidably disposed within the drive carrier so as to dispose the disk drive within the drive carrier;

wherein when the drive carrier rotates with respect to the first protruded and the second protruded portion to swing away from the chassis module, the optical disk drive module will lower the disk drive to expose the disk drive below the flat panel display; and when the drive carrier rotates with respect to the first protruded portion and the second protruded portion to swing toward the chassis module, the optical disk drive module will raise up the disk drive to position the disk drive at the rear side of the flat panel display.

20063947-052802

[c7]

7.A flat panel display personal computer comprising:

a flat panel display;

a computing module installed on a rear side of the flat panel display and coupled to the flat panel display; and

an optical disk drive module disposed at the rear side of the flat panel display for lifting up and lowering a disk drive, the optical disk drive module comprising:

a chassis module moveably disposed at the rear side of the flat panel display;

a drive carrier rotatably disposed in the chassis module for positioning the disk drive;

a cover fixed outside the disk drive and slidably fastened within the drive carrier so as to dispose the disk drive in the drive carrier;

a button positioned at a front cover of the flat panel display; and

an engaging switch disposed on the chassis module, the engaging switch fastened to the cover so as to enclose the drive carrier in the chassis module; wherein when depressing the button, the button will push the engaging switch to separate the engaging switch from the cover, and the drive carrier will swing away from the chassis module to expose the disk drive below the flat panel display.

[c8]

8.The flat panel display personal computer of claim 7 wherein:

the chassis module comprises:

a chassis body;

a first side plate and a second side plate formed at two sides of the chassis body and moveably fastened to the rear side of the flat panel display, the first side plate having a first aperture, the second side plate having a second aperture facing the first aperture;

the drive carrier comprises:

a carrier body;

a first side plate and a second side plate formed at two sides of the carrier body, the first side plate having a first protruded portion inserted into the first aperture of the first side plate of the chassis module, the second side plate having a second protruded portion inserted into the second aperture of the

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second side plate of the chassis module;
a first positioning hook positioned at an upper end of the first side plate, and a second positioning hook positioned at an upper end of the second side plate;
and
the cover comprises:
a cover body having a first positioning slot for receiving the first positioning hook, and a second positioning slot for receiving the second positioning hook so as to fasten the cover within the drive carrier;
a first side plate and a second side plate formed at two sides of the cover body and outside of the disk drive so as to fix the cover outside of the disk drive, the first side plate and the second side plate being slidably disposed within the drive carrier so as to dispose the disk drive within the drive carrier; and
a switch hook positioned on the cover body for engaging with the engaging switch;
wherein when the drive carrier rotates with respect to the first protruded and the second protruded portion to swing away from the chassis module, the optical disk drive module will lower the disk drive to expose the disk drive below the flat panel display; and when the drive carrier rotates with respect to the first protruded portion and the second protruded portion to swing toward the chassis module, the optical disk drive module will raise up the disk drive to position the disk drive at the rear side of the flat panel display.

[c9]

9.The flat panel display personal computer of claim 8 wherein the button comprises a rod to be pushed by a user.

[c10]

10.The flat panel display personal computer of claim 9 wherein the engaging switch comprises:
an engaging unit disposed on the first side plate of the chassis module, a plurality of elastic elements separating the engaging unit and the first side plate of the chassis module by a predetermined distance, a protruded portion formed on one side of the engaging unit to be pushed by the rod;
a fastening unit moveably disposed on the chassis body having an end fastened to the switch hook so as to enclose the drive carrier within the chassis module;
and

a connecting unit connected between the engaging unit and the fastening unit; wherein when depressing the button, the rod will push the protruded portion to cause the engaging unit moving toward the first side plate of the chassis module and the fastening unit will move with the connecting unit to separate from the switch hook.

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